ABSTRACT OF THE DISCLOSURE

A maximum error region determining unit determines a region having a maximum likelihood of error from a channel signal y(t).   An optimal path searching unit uses only an error signal at the region having a maximum likelihood of error to find a minimum error generation path and to correct the error signal.   A signal recovery unit applies a predetermined algorithm to the channel signal y(t) in which a part of the signal has been corrected by the optimal path searching unit in order to recover an original recorded signal a_k.   The signal processing apparatus and method search for an optimal path of a channel signal only in the maximum error generation region, thereby reducing complexity and simplifying implementing hardware while allowing for signal processing without change in hardware where changes in a channel model or conditions of an input signal occur.